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| 10/725,338 | 12/02/2003 | Brenda Lynn Deitrich | 00280749AA | 1329 |
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| WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C. | | | CHONG CRUZ, NADJA N | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/725,338 | Applicant(s) DEITRICH ET AL. |
| | Examiner NADJA CHONG CRUZ | Art Unit 3623 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 20 November 2008.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 29 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 29 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449)
Paper No(s)/Mail Date 4 November 2008

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

Status of Claims

1. This Final action is in reply to the response filed on 20 November 2008.
2. Claim 29 has been added.
3. Claim 28 has been canceled.
4. Claim 29 is currently pending and has been examined.

Response to Amendment

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.
6. The rejection of claim 28 under 35 USC § 112, 2nd paragraph is withdrawn in light of Applicant's amendment.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
8. Claim 29 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
9. As per Claim 29, the steps have no sequence or continuity between them. It is unclear how the steps are related with each other; they appear to be different pieces for management of workforce evolution of a workforce of a business.

10. Claim 29 recites the limitation *the controlled evolution rates* in lines 27-28, and *the cost of changing the workforce* in line 31. There is insufficient antecedent basis for these limitations in the claims.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.
12. Claim 29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Based on Supreme Court precedent and recent Federal Circuit decisions, *88 USPQ2d 1385 In re Bilski U.S. Court of Appeals Federal Circuit*. A method claim must meet a specialized, limited meaning to qualify as a patent-eligible process claim. As clarified in *Bilski*, The test for a method claim is whether the claimed method is (1) tied to a particular machine or apparatus, or (2) transforms a particular article to a different state or thing. This is called the "machine or-transformation test" (see at least *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)).
13. There are two corollaries to the machine-or-transformation test. First, a mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test. Second, insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. This means reciting a specific machine or a particular transformation of a specific article in an insignificant step, such a data gathering or outputting, is not sufficient to pass the test. As per Claim 29 recites *via the system solution architecture* for computing a set of achievable and the cost of changing the workforce, via the system solution architecture is an insignificant extra-solution activity which it will not transform an unpatentable principle into a patentable process.

14. Nominal recitations of structure in an otherwise ineligible method fail to make the method a statutory process. See Benson, 409 U.S. at 71-72. As Comiskey recognized, "the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter." Comiskey, 499 F.3d at 1380 (citing *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir.1989)). Incidental physical limitations, such as data gathering, field of use limitations, and post-solution activity are not enough to convert an abstract idea into a statutory process. In other words, nominal or token recitations of structure in a method claim do not convert an otherwise ineligible claim into an eligible one.
15. Incidental physical limitations, such as data gathering, field of use limitations, and post-solution activity are not enough to convert an abstract idea into a statutory process. In other words, nominal or token recitations of structure in a method claim do not convert an otherwise ineligible claim into an eligible one.

Response to Arguments

16. Applicant's arguments received on 20 November 2008 with respect to claim 28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
18. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rydell, ALEC: A Model for Analyzing the Cost-Effectiveness of Air Force Enlisted Personnel Policies (Theory and Results), RAND, August 1987.

Claim 29:

Rydell as shown discloses a computer implemented method for management of workforce evolution of a workforce of a business, the method comprising:

- *(1) providing a system solution architecture comprising several layers separated by databases and computational and execution functions whereas the system solution architecture includes implemented thereon an evolution network for the workforce, said workforce evolution network comprising: (page iii, 2nd ¶ which disclose that "[t]he EFMP is building a decision support system, called the Enlisted Force Management System (EFMS), to assist managers of the enlisted force in meeting force targets. This system will include computer models that project the force resulting from given management actions, so actions that meet targets can be found; and computer models that estimate the costs of alternative management actions, so that efficient ways of meeting the targets can be found." And page iv, 4th and 5th ¶, which disclose a "microcomputer model that estimates the cost effectiveness of management actions for a given part of the enlisted force." where "[a] microcomputer disk" "contains the ALEC model and the ALEC database", Rydell disclose a system solution architecture with databases and computational and execution functions);*
- *(ii) a set of links, wherein each link is a viable path between the first skill level/job group and the second skill level/job group, the set of links comprising a new hire link, a resignation link, a retire link, a layoff link, a fire link, a promotion link, a demotion link, a role shift link, a role shift with promotion link, and a role shift with demotion link (page iii, last paragraph, which disclose "[e]xample actions that the model can evaluate are limits on the number of enlistments of various types, reenlistment bonuses designed to increase the number of persons who make the Air Force a career" (e.g., a hire link), "retraining programs that transfer personnel*

from one specialty to another" (e.g., a role shift with a promotion link), and early releases" (e.g., a retire link) "of persons before the end of their obligated term of enlistment." Which are evolution links);

- *(c) a set of time periods wherein each time period is a pair of time instances (t', t") with t' not exceeding t"* (page iii, which teaches that The Aggregate Lifecycle Effectiveness and Cost (ALEC) model focuses on the costing part of the EFMS's job. It analyzes the lifecycle of enlisted personnel from the time a cohort enters the Air Force" (e.g., t') "until the last of the cohort leaves" (e.g., t") the Air Force."), where the time a cohort enter not exceed the time the cohort leaves);
- *(f) a cost function representing one or more numerical values associated with maintaining the workforce evolution network in a particular state at a particular time* (page iii, which teaches that The Aggregate Lifecycle Effectiveness and Cost (ALEC) model focuses on the costing part of the EFMS's job.". Further, "[t]he analysis tracks both the costs and the number of persons working during each year of the lifecycle and constructs ratios of cost to effectiveness to evaluate alternative management actions.");
- *(2) via the system solution architecture, computing a set of achievable states of the workforce evolution network for a given one time period or multiple time periods within the set of time periods* (page iii, 2nd ¶, which disclose "[t]his system will include computer models that project the force resulting from given management actions, so actions that meet targets can be found" (e.g., achievable states of the workforce evolution); "and computer models that estimate the costs of alternative management actions, so that efficient ways of meeting the targets can be found." Page 13, 2nd ¶: "[t]o define specific management actions, these general types of actions must be subdivided by the time during the lifecycle at which the action

occurs." (e.g., one time period or multiple time periods within the set of time periods));

- *and determining whether a target state is achievable with the present state and the controlled evolution rates* (page iv, 1st ¶, which disclose that "[o]ften a variety of actions (or combinations of actions) are available to achieve a particular force management objective" (e.g., a target state). "Because ALEC is a microcomputer model that is easy to operate and that focuses on a (user-selected) part of the enlisted force, the model enables enlisted force managers to quickly reduce a set of alternatives to a short list containing those that are most cost effective in a given situation.");

Rydell does not specifically teach that the target state is achievable with the present state and the controlled evolution rates, however, it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify Rydell in order to determine a target state (e.g., a particular force management objective) with the present state and the controlled evolution rates, because "ALEC is a microcomputer model that is easy to operate and that focuses on a (user-selected) part of the enlisted force, the model enables enlisted force managers to quickly reduce a set of alternatives to a short list containing those that are most cost effective in a given situation." (Rydell, page iv, 1st ¶).

Further, Rydell teaches:

- *(3) in the workforce evolution network for the workforce comprising at least several employees,* (page iii, 3rd ¶, which disclose "[i]t analyzes the lifecycle of enlisted personnel" (e.g., several employees));
- *after adding or destroying one or more skill level/job groups or one or more links, computing, via the system solution architecture, at least the cost of changing the workforce evolution network topology by the adding or destroying one or more skill*

level/job groups or one or more evolution links (page iii, 3rd and 4th ¶, “[i]t analyzes the lifecycle of enlisted personnel from the time a cohort enters the Air Force until the last of the cohort leaves the Air Force. The analysis tracks both the costs and the number of persons working during each year of the lifecycle and constructs ratios of cost to effectiveness to evaluate alternative management actions.” And “[t]he model enables managers of Air Force enlisted personnel to compare the cost effectiveness of alternative management actions for a part of the force selected for analysis. Example actions that the model can evaluate are limits on the number of enlistments of various types, reenlistment bonuses designed to increase the number of persons who make the Air Force a career, retraining programs that transfer personnel from one specialty to another, and early releases of persons before the end of their obligated term of enlistment.” Which are evolution links);

It is noted that the limitations of step 1, limitations: (a) a workforce evolution topology comprising (i) a set of at least two skill level/job groups comprising at least a first skill level/job group and a second skill level/job group, and (ii) a set of links, wherein each link is a viable path between the first skill level/job group and the second skill level/job group, the set of links comprising a new hire link, a resignation link, a retire link, a layoff link, a fire link, a promotion link, a demotion link, a role shift link, a role shift with promotion link, and a role shift with demotion link; (b) a present state of the workforce evolution network wherein the present state is represented by a number of employees in each skill level/job group at a given specified time, the present state being a vector; (c) a set of time periods wherein each time period is a pair of time instances (t', t'') with t' not exceeding t'' (page iii, which teaches that The Aggregate Lifecycle Effectiveness and Cost (ALEC) model focuses on the costing part of the EFMS's job. It analyzes the lifecycle of enlisted personnel from the time a cohort enters the Air Force” (e.g., t') “until the last of the cohort leaves” (e.g., t'') the Air Force.), where the time a cohort enter not exceed the time the cohort leaves); (d) a set of workforce evolution rates wherein a workforce evolution rate is a numeric value associated with a (link, time period) pair; (e) a space of controlled evolution rates

comprising one or more workforce evolution rates for each pair of skill level/job group and a time period; (f) a cost function representing one or more numerical values associated with maintaining the workforce evolution network in a particular state at a particular time; are not given patentable weight because to be entitled to such weight in method claims, recited structural limitations must affect method in manipulative sense and not amount to mere claiming of a use of a particular structure; new use is not among categories of patentable inventions specified in 35 U.S.C. 101, see Ex Parte PFEIFFER, 35 USPQ (BNA) 31.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Janseen et al., Salary Cost Evaluation by means of non-homogenous semi-markow processes, Stochastic Models, 18(1), 7-23 (2002) which disclose a useful model for forecasting the future development of salary costs in a firm.
- Gronalt, et al., Workforce planning and allocation for mid-volume truck manufacturing: a case study, International Journal of Production Research, vol. 41, no. 3, 449-463 (2003) which disclose a case study for the short-term workforce planning and allocation for labour-intensive transfer lines.
- Tunc, et al., A multistage approach for production and workforce planning in long-cycle product environments, Production Planning and Control, 1994, vol. 5, no. 5, 465-474, which determine the optimal workforce and production level in each period of the planning horizon.
- Cosolo, Role-Job Functional Mapping: A workforce design tool for 2000, Nurse Administration Quarterly/Winter 2002, 26(2), 34-42, which disclose a workforce planning due to a major nursing shortage.
- O' Brien-Pallas et al., Integrating Workforce planning, human resources and service planning, Workshop on Global Health Workforce Strategy, 9-12 December 2000, which

examines effective approaches to the use of computer-based scenario modeling to support assessment of current and future planning options.

- Gresham, et al., *Creating value in government through human capital management: Integrating workforce-planning approaches*, IBM Institute for Business Value, 2002, which disclose an approach that strives to ensure that employees have the right information at the right time to make the right decisions.
- Skolnik, et al., *Selecting and optimal set of manpower requirements when skill substitution is possible*, *British Journal of Industrial Relations*, Jul 72, Vol. 10, Issue 2, the purpose of this paper is to give further consideration to the choice of criteria for selecting and optimum set of educational or occupational requirements when skill substitution is possible.
- Hall, *Graphical models for manpower planning*, *Int. J. Prod. Res.*, 1986, Vol. 24, no. 5, which disclose a work-force planning model developed for minimizing the costs of standard wages, over time wages, hiring and firing.

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **Nadja Chong** whose telephone number is **570.270.3939**. The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **BETH BOSWEL** can be reached at **571.272.6737**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see [<http://portal.uspto.gov/external/portal/pair>](http://portal.uspto.gov/external/portal/pair) or [<http://pair-direct.uspto.gov>](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free).

Any response to this action should be mailed to:

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